DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-018164
Date Inspected: 15-Nov-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name: William Sherwood and John Pagliero

CWI Present: ☑ Yes ☐ No

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 6E/7E LS4 longitudinal stiffener inside, QA randomly observed ABF welder Xiao Jian Wan ID #9677 continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) back welding cover pass on the other side of the stiffener splice butt joint. The joint has a double V joint preparation that was welded from one side using E9018H4R with 1/8” diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded is a high strength plate material HPS 485W which has a thickness of 35mm was root welded using a ceramic backing, and fully welded on one side. The splice joint was preheated and maintained to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. During the shift, the welder has completed welding cover of the stiffener and held the preheat maintenance of 200 degrees F for three hours after welding. The QA Inspector noted the ABF QC John Pagliero was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed.

At OBG 6E/7E LS3 longitudinal stiffener inside, QA randomly observed ABF welder Hua Qiang Hwang ID #2930 continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) welding fill pass on one side of the stiffener splice butt joint. The joint has a double V joint preparation that was being welded from one side using E9018H4R with 1/8” diameter electrode implementing Caltrans approved

welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded is a high strength plate material HPS 485W which has a thickness of 35mm was root welded using a ceramic backing. The splice joint was preheated and maintained to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. During the shift, the welder has not completed welding cover of the stiffener and should continue tomorrow. The QA Inspector noted the ABF QC John Pagliero was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed.

At OBG 6W/7W edge plate 'B' outside, QA randomly observed ABF/JV qualified welder Fred Kaddu ID # 2188 perform CJP groove welding repair. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1001-Repairs. The two boat shape repair excavations were located at 1) Y- dimension 305mm with 190mm long x 25mm wide x 8mm deep excavation profile and 2) Y-dimension 660mm with 165mm long x 28mm wide x 8mm deep excavation profile were preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC William Sherwood was noted monitoring the welder. Prior welding, ABF QC William Sherwood was also observed performing Magnetic Particle Testing (MT) using Parker Contour Probe with red magnetic powder as detecting medium on the repair excavations. There were no significant defects noted during the test. Before the end of the shift, welding repair on the two locations mentioned was completed.

At OBG 6W/7W edge plate 'F' inside, QA randomly observed ABF/JV qualified welder Jorge Lopez ID #6149 continuing to perform CJP groove welding repair. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 5/32" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1001-Repairs. The repair excavation which was located at Y-dimension 50mm with 300mm long x 30mm wide x 13mm deep excavation profile, was preheated to more than 140 degree Fahrenheit using propane gas torch prior welding. During the shift, ABF QC William Sherwood was noted monitoring the welder. At the end of the shift, cover pass welding was still continuing and should remain tomorrow.

At OBG 7W/8W top deck plate 'A' outside, this QA performed 10% MT verification on the welded splice butt joint. QA was using Parker Contour Probe Model DA 400 with serial number 16989 electromagnetic yoke with red magnetic powder as detecting medium. QA found no significant indications during the verification. Please see TL-6028 report for more information.

Pipe Supports at W2 East

This QA randomly observed the installation and fit-up of the pipe supports being welded to the embeds of the bent cap located at the W2 east line. The tack welding and field welding was performed by David Garcia ID-8789 utilizing a 3.2 mm electrode as per the Welding Procedure Specification (WPS) identified as Fillet Murex. The ¼" all around fillet welding was being performed in 4F position on top flange of one W10 x 49 to the bottom steel plate embeds of the concrete structure. The fit up and welding monitoring was performed by Mike Johnson utilizing the WPS to monitor the welding and to verify the amperage. The fillet welding of the pipe support PS-8 identified as weld number 101115-05 was still continuing and should remain tomorrow. ABF sub-contractor F.W. Spencer has been performing the task mentioned above.

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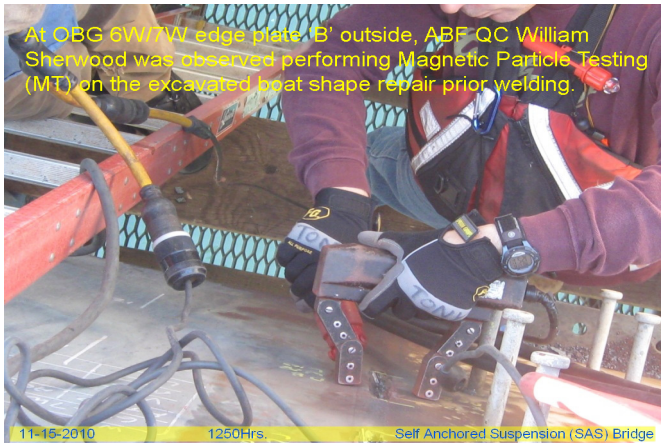

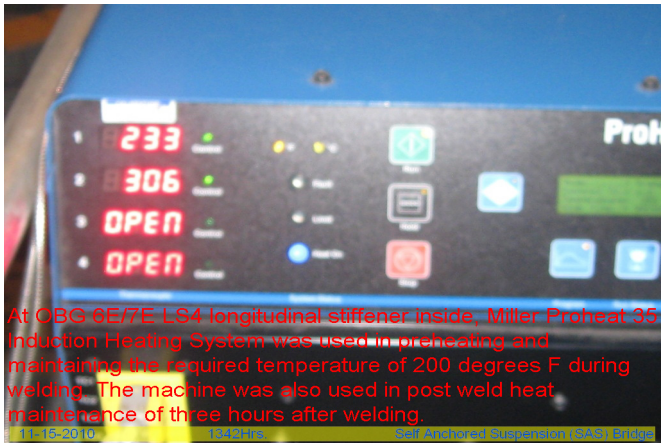

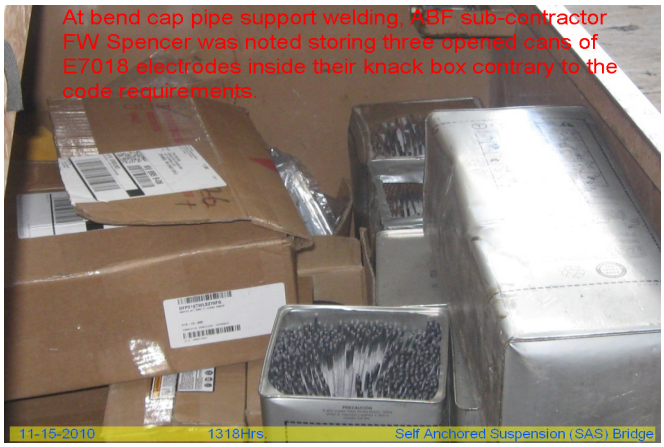

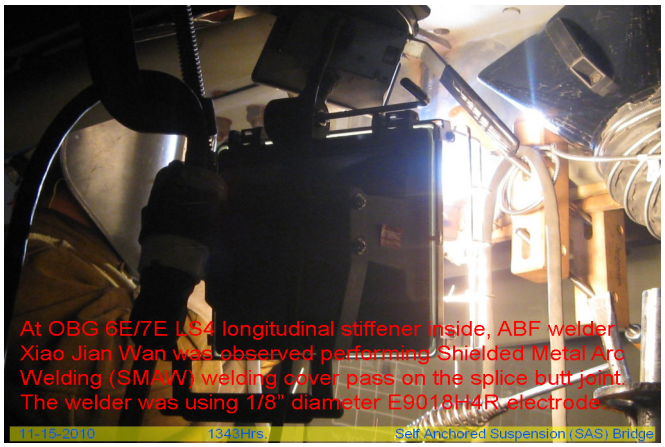

Summary of Conversations:

During QA's observation on the fit up and fillet welding of the pipe supports being performed by ABF sub-contractor F.W. Spencer, it was noted that they were keeping three opened cans of 7018 electrodes inside their knack box. When QA asked F.W. Spencer QC Tom Colombo about the opened cans of electrode, he responded by saying they were just opened today which seems doubtful due to limited welding activity that they were doing. This QA informed ABF QC Bonifacio Daquinag to take a look into this circumstance and verify their electrode storage.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer